2012 - JCR Evaluation Form

SPECIES: Moose
PERIOD: 6/1/2012 - 5/31/2013

HERD: MO620 - LANDER

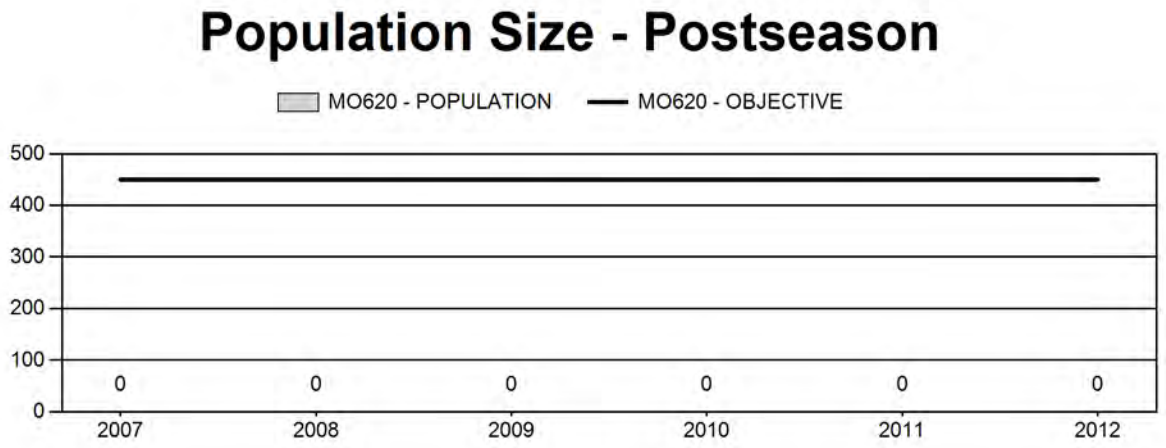
HUNT AREAS: 2, 30
PREPARED BY: STAN HARTER

	2007 - 2011 Average	2012	2013 Proposed
Population:	0	N/A	N/A
Harvest:	8	9	10
Hunters:	10	10	10
Hunter Success:	80%	90%	100 %
Active Licenses:	10	10	10
Active License Percent:	80%	90%	100 %
Recreation Days:	95	40	50
Days Per Animal:	11.9	4.4	5
Males per 100 Females	66	61	
Juveniles per 100 Females	32	40	

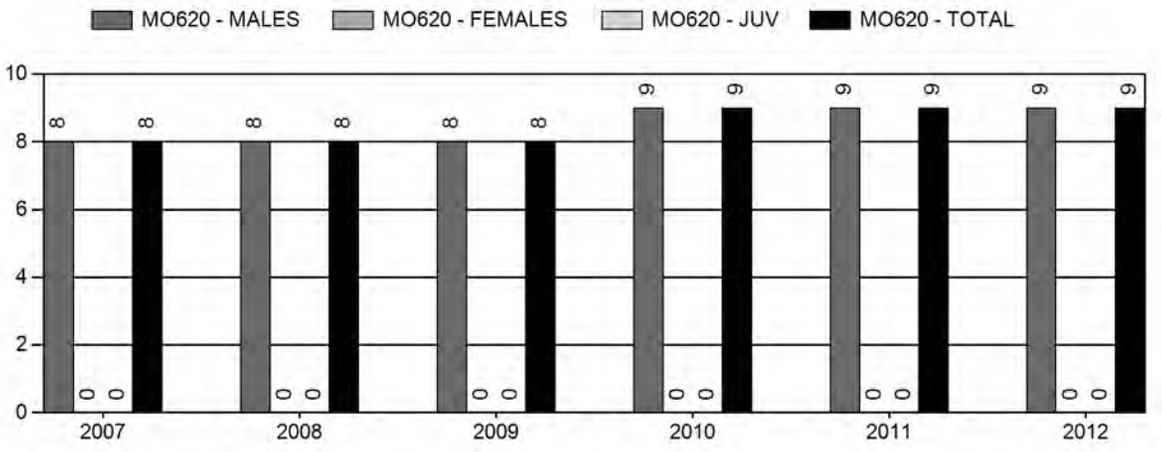
Population Objective:	450
Management Strategy:	Special
Percent population is above (+) or below (-) objective:	N/A%
Number of years population has been + or - objective in recent trend:	0
Model Date:	None

Proposed harvest rates (percent of pre-season estimate for each sex/age group):

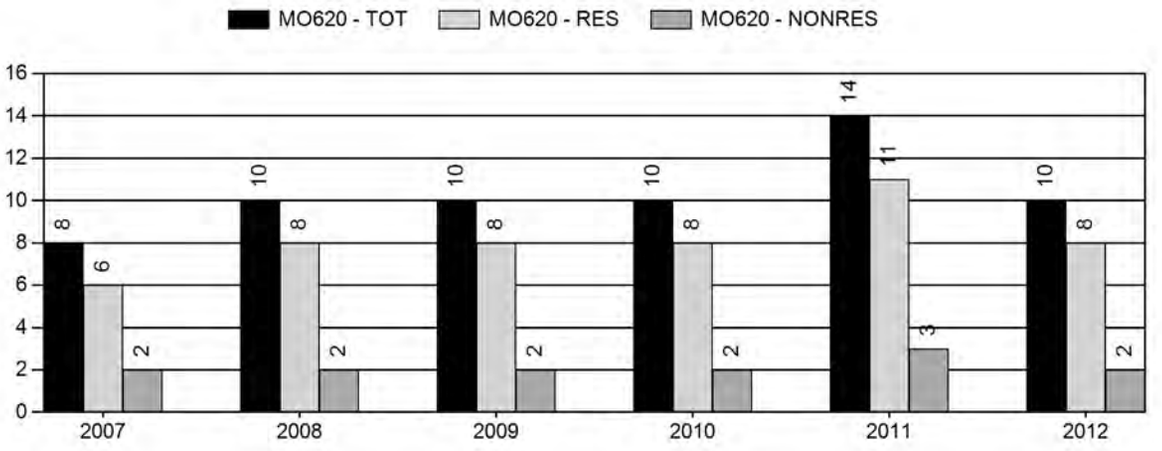
	JCR Year	Proposed
Females ≥ 1 year old:	0%	0%
Males ≥ 1 year old:	0%	0%
Juveniles (< 1 year old):	0%	0%
Total:	0%	0%
Proposed change in post-season population:	0%	0%



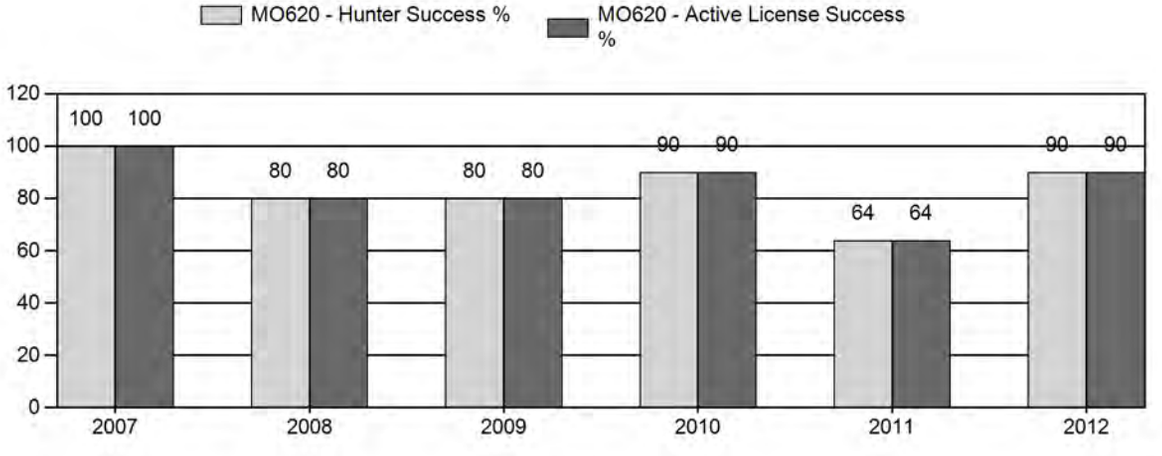
Harvest



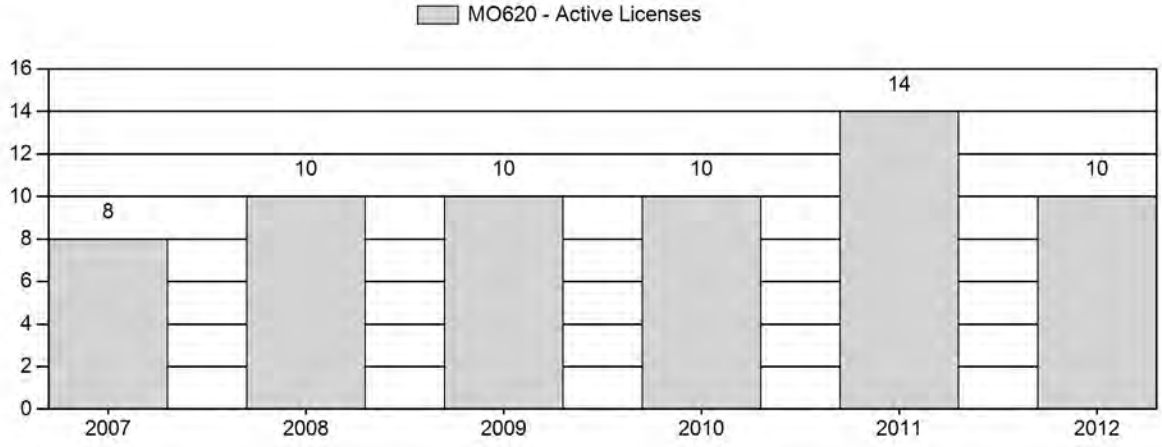
Number of Hunters



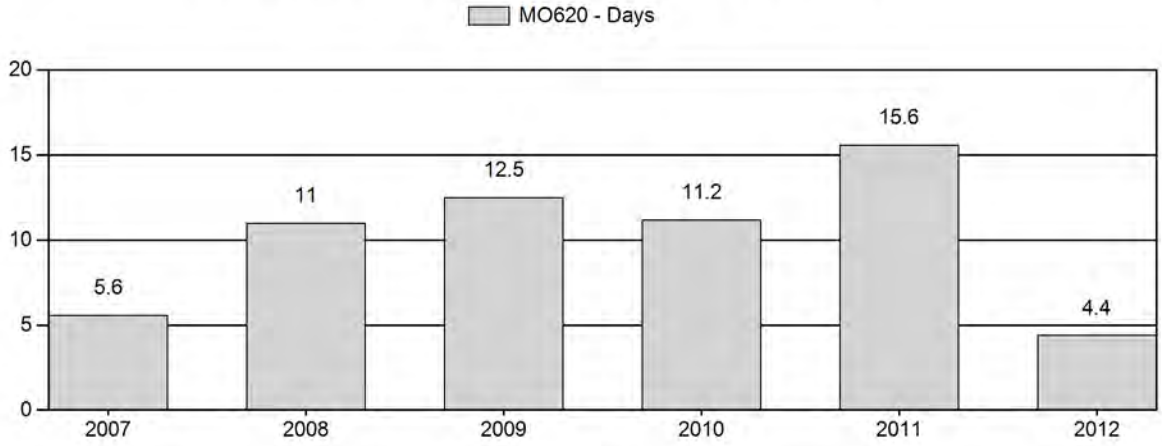
Harvest Success



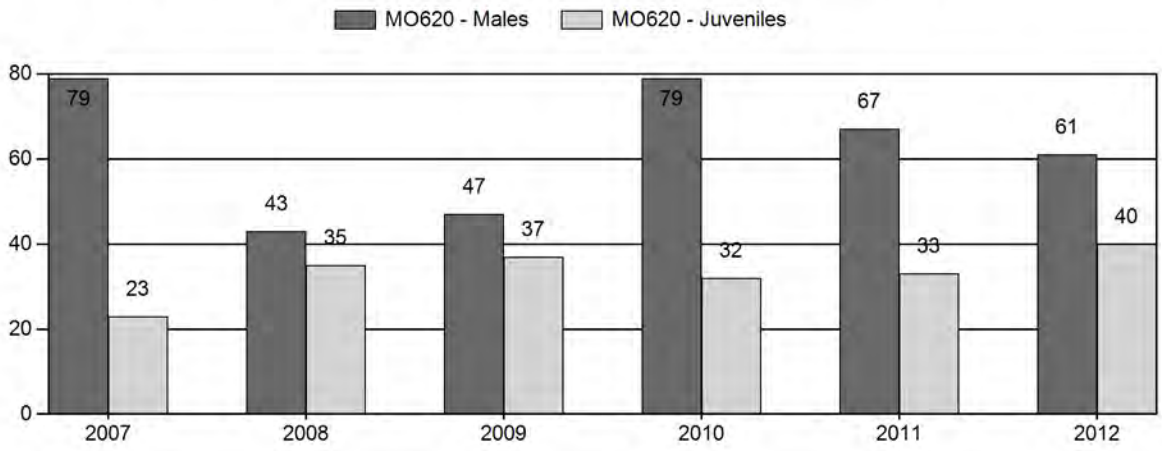
Active Licenses



Days per Animal Harvested



Postseason Animals per 100 Females



2007 - 2012 Postseason Classification Summary

for Moose Herd MO620 - LANDER

		MALES				FEMALES		JUVENILES				Males to 100 Females				Young to		
Year	Post Pop	Ylg	Adult	Total	%	Total	%	Total	%	Tot Cls	Cls Obj	Yling	Adult	Total	Conf Int	100 Fem	Conf Int	100 Adult
2007	0	0	0	61	39%	77	49%	18	12%	156	301	0	0	79	± 13	23	± 6	13
2008	0	0	0	27	24%	63	56%	22	20%	112	220	0	0	43	± 10	35	± 9	24
2009	0	0	0	24	26%	51	54%	19	20%	94	234	0	0	47	± 13	37	± 11	25
2010	0	0	0	78	37%	99	47%	32	15%	209	281	0	0	79	± 9	32	± 5	18
2011	0	0	0	54	33%	81	50%	27	17%	162	263	0	0	67	± 11	33	± 7	20
2012	0	0	0	43	30%	70	50%	28	20%	141	0	0	0	61	± 12	40	± 9	25

2013 HUNTING SEASONS
Lander Moose Herd Unit (MO 620)

HUNT AREA	TYPE	Season Dates OPENS	CLOSES	Limited Quota	LIMITATIONS
2	1	Oct. 1	Nov. 20	5	Limited quota licenses; antlered moose
30	1	Oct. 1	Oct. 31	5	Limited quota licenses; antlered moose
		Nov. 1	Nov. 20		Unused Area 30 Type 1 licenses also valid in Area 2
39		CLOSED			
2, 30		Sept. 1	Sept. 30		Archery Season; Refer to license type

MANAGEMENT EVALUATION

Current Management Objective: 450
Proposed Management Objective: Trend Count
Management Strategy: 60-70 bull/100 cows
2012 Post-season Population Estimate: No Model
2013 Post-season Population Estimate: No Model

Herd Unit Issues/Population

The population experienced a general decline beginning in 1995, with apparent increases the past few years. Attempts to develop a spreadsheet model for Lander Moose were not successful. All iterations of the Spreadsheet Model result in either unsubstantiated population trends or somewhat reasonable trends, but exaggerated population size. Also, the model with the most reasonable trend (TSJ/CA) has almost all juvenile survival estimates at the upper or lower thresholds, leaving doubt as to the model's true ability to estimate this moose population accurately. In the absence of an accurate, or even usable, population estimate for the Lander Moose Herd Unit, we are proposing a change to an alternative objective based on winter trend counts (collected as classification survey data, which we believe to be a reliable trend indicator as we fly all available winter ranges annually). Therefore, we recommend the new management objective be a trend count of 225 moose (range of 180-270 moose). A public meeting was held on May 8, 2013, and pending any comments, we will be forwarding this proposal to Wildlife Administration to be presented to the Commission in summer 2013.

Field Data

Moose winter range trend count/classification surveys were conducted in combination with elk and deer classifications, using a Bell Jet Ranger helicopter along the Sweetwater River and major streams along the southern Wind River mountains. Personnel from the Pinedale Region flew Area 30 west of the Sweetwater River with Savage Air's Bell 47 Soloy helicopter. The total classification sample of 141 moose was 8% above the average since we changed helicopter type in 2004. Moose were observed in traditional willow riparian areas, and some were scattered in upland bitterbrush shrublands and conifer stands adjacent to willow riparian areas. Moose appear to be deriving great value from regenerating aspen, snowbush ceanothus, and other shrubs in the Pass Creek area that burned in 2002. The observed post-season calf/cow ratio of 40J/100F equals the average since 2004 and the observed bull/cow ratio of 61M/100F was above the average for the same time span.

Weather/Habitat

Weather conditions have been variable for several years, with crusted snow conditions in winter 2009-10, followed by cold, wet, and snowy conditions occurring well into June 2010. Winter 2010-11 seemed to duplicate these. Drought conditions have been extreme to exceptional for the past year, beginning with minimal snowfall in winter 2011-12 and continuing with almost no precipitation during spring and summer 2012. This resulted in an almost complete lack of herbaceous or browse forage production across the herd unit.

By early April, drought was expected to worsen through 2013. However, a series of several late winter/early spring snow storms produced over 50" of snow through early May (the equivalent of nearly 4" precipitation) in Lander, with more snow reported in Sinks Canyon (up to 78") and other locations along the east slope of the Wind River Range. These storms have proven extremely helpful in lessening the effects of drought, yet they only helped change the drought status from Extreme to Severe. Unless more precipitation is received in May and June, little habitat improvement (especially shrubs, aspen, and riparian) will be achieved. Additionally, the heaviest precipitation was received in the Lander Foothills, with areas such as South Pass and the Antelope Hills receiving very little new snow in April.

Diseases/Parasites/Non-Hunting Mortality

Presence of carotid artery worms (*Elaeophora schneideri*) has been increasingly documented in most herd units in Wyoming recently. However, moose from the Lander Herd Unit were sampled for this parasite in fall 2012, with no worms found. In fact, no presence of *Elaeophora* worms has been detected in this herd unit since it was first discovered in 1999 and 2000.

Two dead moose (one juvenile female, one yearling female) were discovered in late April – early May 2013 with severe cases of winter ticks being the apparent cause of mortality. The calf had also apparently been orphaned, as she was observed by herself several days before she died and no other moose tracks were located near her carcass.

Four moose (2 bulls, 2 cows) were illegally killed along the Popo Agie River near Hudson in October 2012. Case outcomes are pending in courts.

Harvest Data

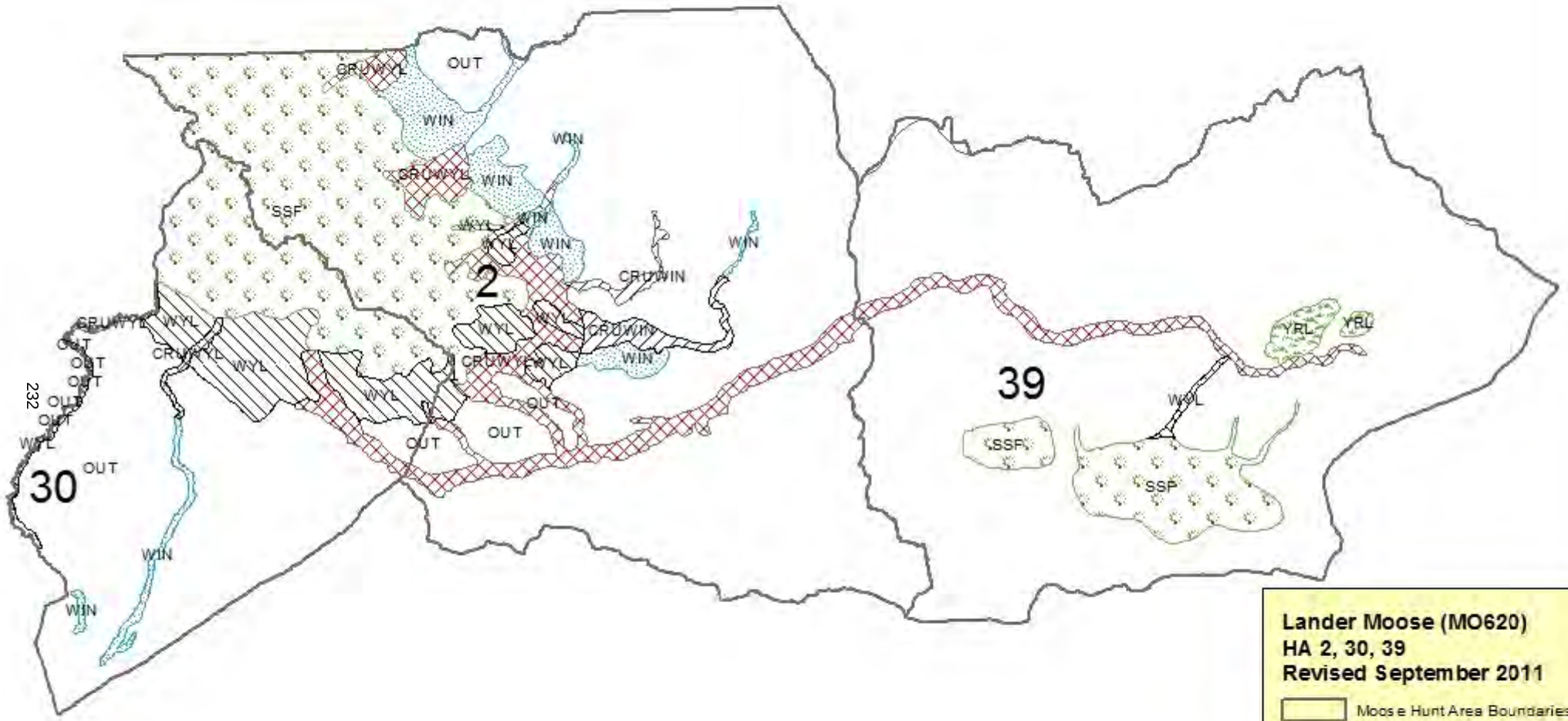
Hunter success, average age and antler width of harvested bulls, along with numbers of moose reported by moose and elk hunters, has generally improved over recent years, especially in Hunt Area 2. In 2012, nine moose were harvested in the herd unit for 90% success, and the number of days per animal harvested dropped to 4.4 days, the lowest since 1999. Only the number of moose observed by hunters declined appreciably to 44 animals, 39 in Area 2 and 5 in Area 30. This is very likely due to hunters spending less time in the field before harvesting their animals, thus limiting the amount of time to observe other moose.

According to the tooth aging report, teeth were submitted from 6 harvested bull moose, with average age via cementum annuli at 4.8 years (range 1.5 – 9.5 years). This was identical to the past 2 seasons and improved over recent years, when several 2-year old bulls were harvested and the average age was about 4 years. Antler width averaged 36 inches (range 28 – 45 inches).

Management Summary

For the 2013 hunting season, we are continuing conservative seasons with 5 Type 1 Antlered Moose licenses in Hunt Area 2 and with 5 Type 1 licenses in Hunt Area 30. In response to hunters reporting difficulty in finding and harvesting moose in Area 30 in recent years, Area 30 hunters will also be allowed to hunt in Area 2 after November 1, if they are unsuccessful in Area 30 during October. This was done in 2012, but none of the Area 30 hunters actually hunted in Area 2. We do not anticipate issuing Type 2 antlerless moose licenses in the foreseeable future, to allow this population to increase toward objective.

The seasons outlined above should allow this herd to slowly move toward objective and provide additional opportunity for bull moose hunting following increased bull/cow ratios and improved hunters statistics. With the hunting seasons outlined above, we anticipate hunter success to be 100%, resulting in a harvest of 10 bulls.


2
30
39
CRUWYL
CRUWIN
WYL
WIN
OUT
SSF
YRL
Lander Moose (MO620)
HA 2, 30, 39
Revised September 2011
Moose Hunt Area Boundaries
Moose Seasonal Range
CRUWIN
CRUWYL
OUT
SSF
WIN
WYL
YRL

2012 - JCR Evaluation Form

SPECIES: Moose

PERIOD: 6/1/2012 - 5/31/2013

HERD: MO621 - DUBOIS

HUNT AREAS: 6

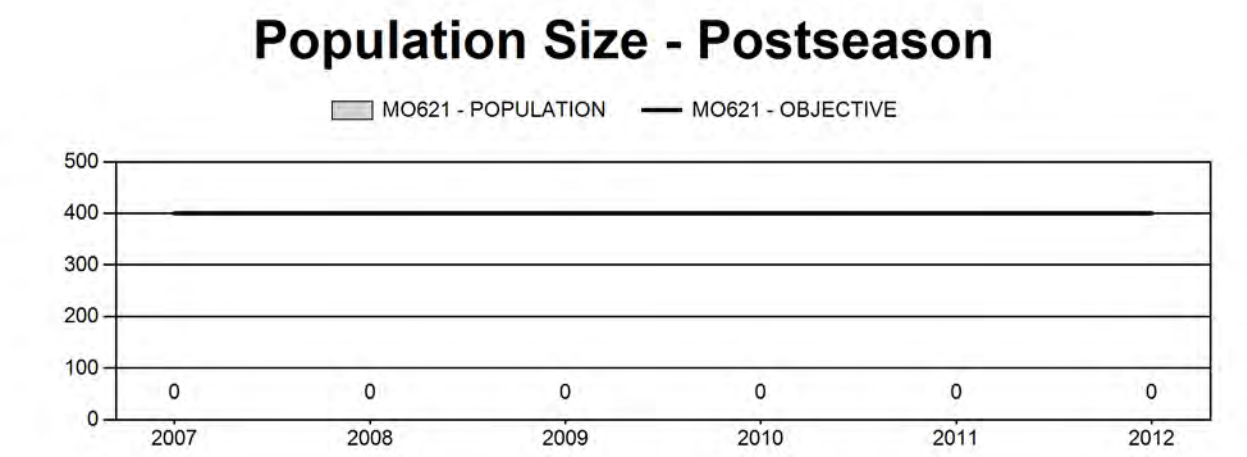
PREPARED BY: GREG ANDERSON

	2007 - 2011 Average	2012	2013 Proposed
Population:	0	N/A	N/A
Harvest:	7	5	4
Hunters:	8	5	5
Hunter Success:	88%	100%	80%
Active Licenses:	8	5	5
Active License Percent:	88%	100%	80%
Recreation Days:	56	28	30
Days Per Animal:	8	5.6	7.5
Males per 100 Females	40	0	
Juveniles per 100 Females	31	0	

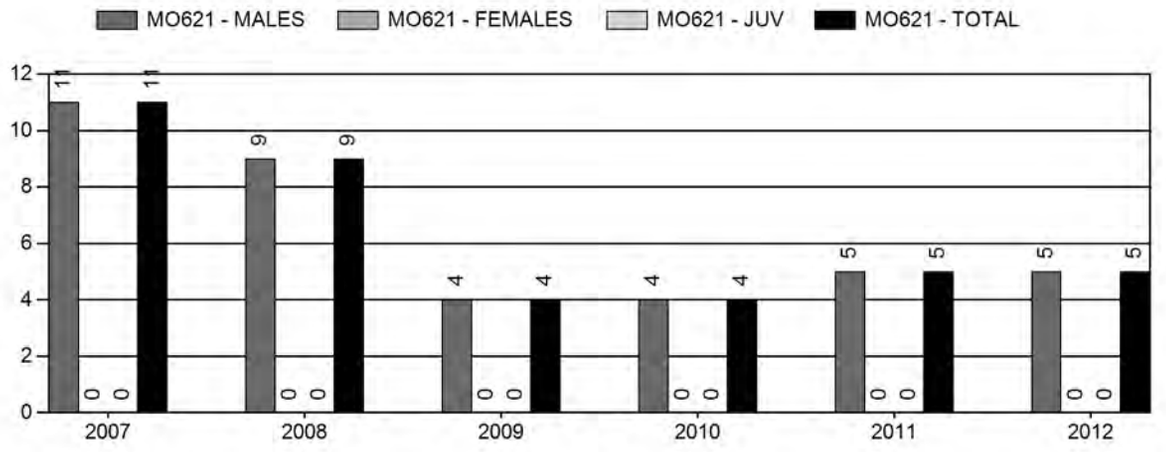
Population Objective:	400
Management Strategy:	Special
Percent population is above (+) or below (-) objective:	N/A%
Number of years population has been + or - objective in recent trend:	0
Model Date:	None

Proposed harvest rates (percent of pre-season estimate for each sex/age group):

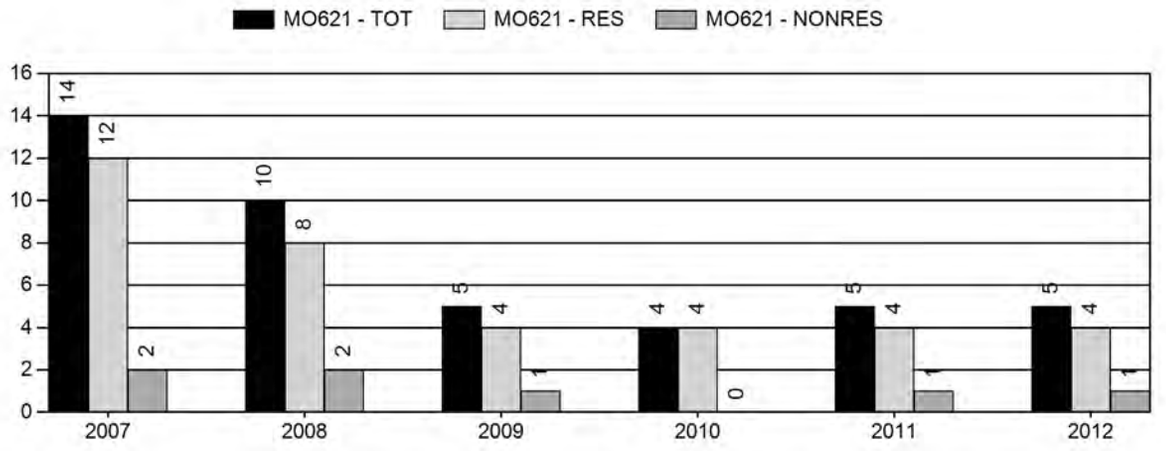
	JCR Year	Proposed
Females ≥ 1 year old:	0%	0%
Males ≥ 1 year old:	0%	0%
Juveniles (< 1 year old):	0%	0%
Total:	0%	0%
Proposed change in post-season population:	0%	0%



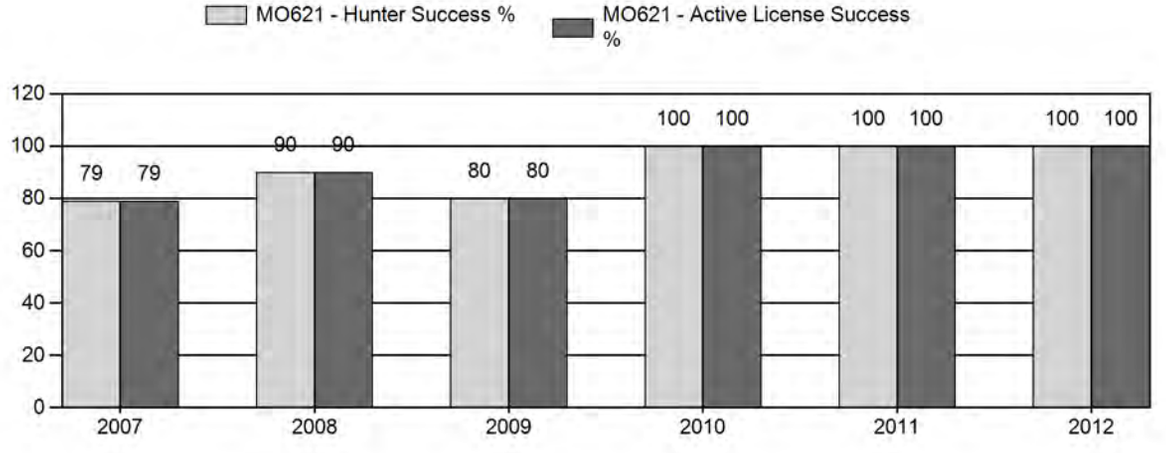
Harvest



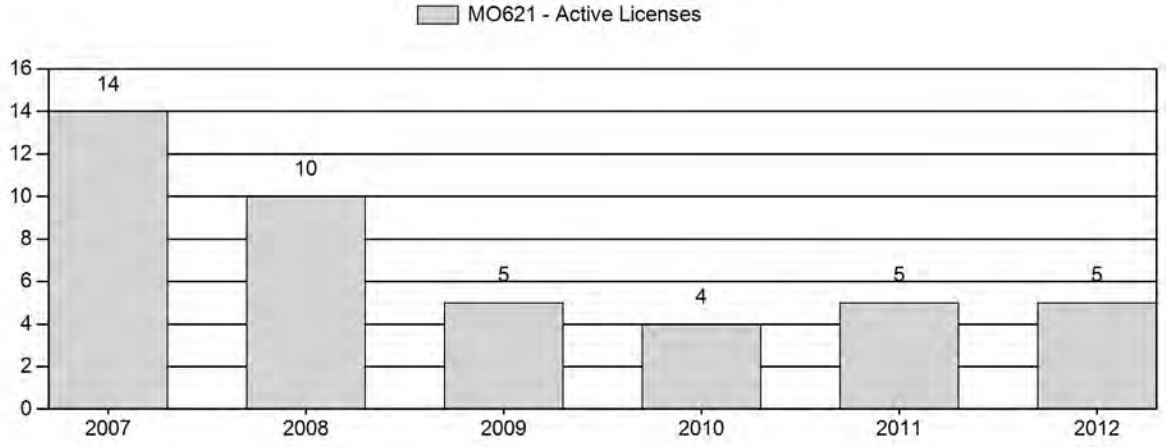
Number of Hunters



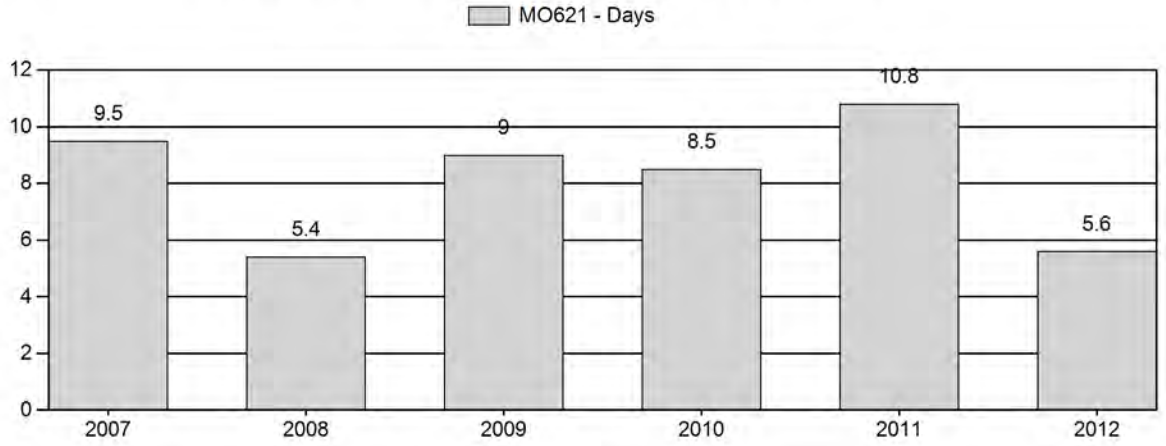
Harvest Success



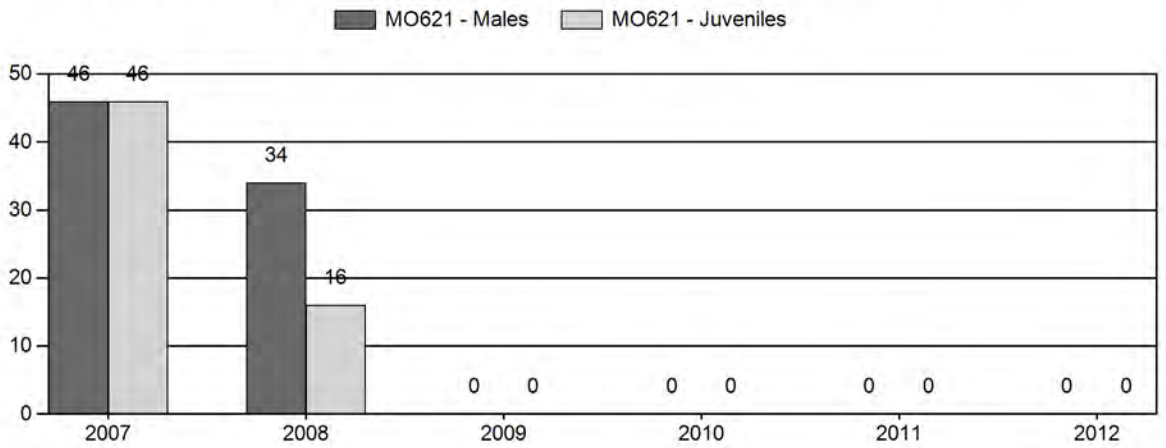
Active Licenses



Days per Animal Harvested



Postseason Animals per 100 Females



2013 HUNTING SEASONS
DUBOIS MOOSE (MO 621)

Hunt Area	Type	Season Dates Opens	Closes	Quota	Limitations
6	1	Oct. 1	Nov. 20	5	Limited quota licenses; antlered moose
Archery		Sep. 1	Sep. 30		Refer to Section 3 of this Chapter

Hunt Area	Type	Quota change from 2012
6		
Total		

Management Evaluation
Current Management Objective: 400
Management Strategy: Special
2012 Postseason Population Estimate: unknown
2013 Proposed Postseason Population Estimate: unknown

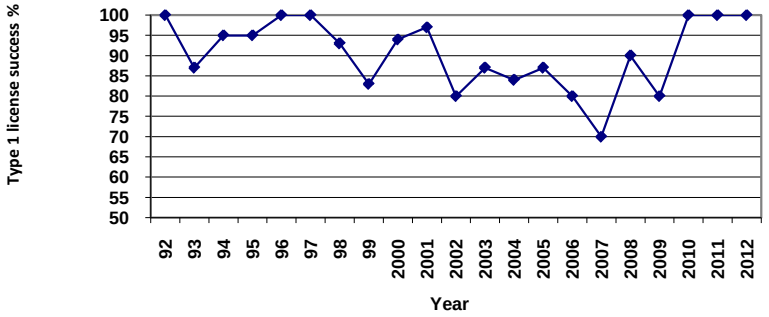
Management Issues
The Dubois moose herd has a population objective of 400 and a special management designation. The objective has been in place since 1994. Despite having a numerical objective, the herd has never been modeled effectively and no model has been constructed over the past 10 years due to the lack of demographic data.

Habitat/Weather
The 2012 bio-year was characterized by extreme drought in this herd unit. Vegetation growth on both low elevation winter sites and mid-elevation summer range is thought to have been below average based on personnel observations. The moose population should have been somewhat buffered from the drought due to the extensive amount of habitat occupied by very low moose densities. It is likely this population has been and will continue to be impacted by large tracts of beetle killed timber across the herd unit over the past several years. The effects of this natural successional change should manifest themselves over the next decade.

Harvest Data/Population
Anecdotal evidence suggests this population declined significantly over the past decade. As the population declined it became progressively more difficult and expensive to collect a reasonable amount of demographic data. Concurrently, harvest pressure was reduced and the small amount of harvest data collected annually became less useful for making management decisions. The

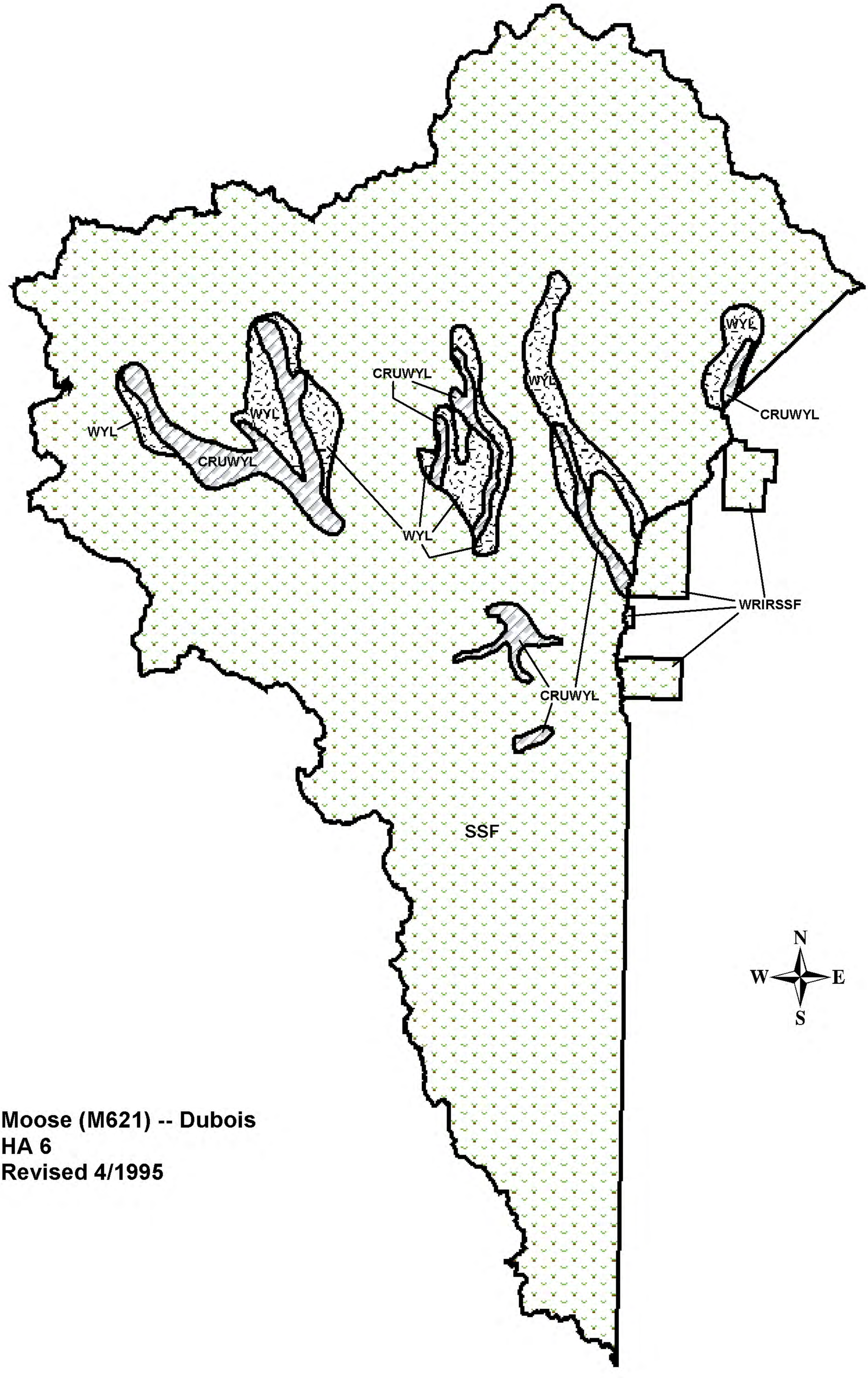
Department has not actively managed this herd for a number of years due to the lack of demographic data and the cost prohibitive nature of collecting an appropriate amount of data. Instead, personnel have used anecdotal information as well as Type 1 license success data to formulate hunt season recommendations. For the past 4 years an appropriate amount of recreational opportunity has been provided by issuing 5 Type 1 licenses annually. The reduction to 5 Type 1 licenses occurred in 2009 in response to declining success on Type 1 licenses over the previous decade (Fig. 1). Success on the Type 1 licenses has been 100% each of the last 3 years including 2012.

Figure 1. Type 1 license success in the Dubois Moose Herd



Management Summary

While hunter success has been high the past 3 years, there is no indication the moose population increased dramatically. A significant population increase should be indicated by greater moose numbers on key, highly visible winter ranges throughout the herd unit. Department personnel have not noticed or received public comments to suggest an increase in moose numbers on winter range. Given no anecdotal information suggesting population growth in this herd unit, the 2013 hunt season will remain unchanged with the issuance of 5 Type 1 licenses.



Moose (M621) -- Dubois
HA 6
Revised 4/1995